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PATENT ABSTRACTS OF JAPAN

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(21)Application number : 02-241766 (71)Applicant : HITACHI CABLE LTD

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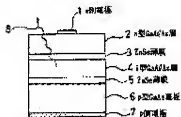
(54) TUNNEL JUNCTION LIGHT EMITTING ELEMENT

(57)Abstract:

PURPOSE: To grow a light emitting layer having a small number of defects and to raise a light irradiating output to a practical level by composing semiconductor layers to be laminated on a substrate of semiconductors having near lattice constants.

CONSTITUTION: A p-type GaAs layer is grown on a p-type GaAs substrate 6, and a ZnSe thin film 5 having wide forbidden

band width and high resistance is grown thereon. Then, an i-type GaAlAs layer 4 to become a light emitting layer is grown, and a mixed crystal ratio profile is formed of an epitaxial layer. A ZnSe thin film 3 having



wider forbidden band width is grown on the layer 4. The semiconductor material of a light emitting element is formed of GaAs, GaAlAs, ZnSe because the lattice constants of the semiconductors have very near values. Thus, the layer 4 to become the light emitting layer can be grown as the epitaxial layer having small number of defects.